

Relative Formula Mass

Some syllabuses might ask you to: "Find the Relative Formula Mass of";

others might ask you to: "Find the mass of one mole of...."

.....They're basically the same thing (but the second has grams after it).

Look at this example of an element question:

Example Question:

*Find the relative atomic mass of zinc
(which is basically the same as asking....
"Find the Mass of One Mole of Zinc")*

**Simply look on the periodic table (at the front of the book) for the relative atomic mass of zinc, which is 65, (add a "g" for grams if it asked for a mole)
Answer = 65**

Find the relative atomic mass of...

Q1 calcium (Ca)

Q2 sodium (Na)

Q3 iron (Fe)

Q4 copper (Cu)

Q5 nitrogen (N)

Q6 carbon (C)

Q7 hydrogen (H)

Q8 chlorine (Cl)

Q9 potassium (K)

Q10 lithium (Li)

Q11 bromine

Q12 argon

Q13 titanium

Q14 aluminium

Q15 gold

Q16 silver

Q17 tungsten

Q18 caesium

Q19 mercury

Q20 lead



Look at this example of a molecule question:

Example Question:

*Find the relative formula mass of zinc oxide
(which is basically the same as asking....
"Find the Mass of One Mole of Zinc oxide")*

**Simply look on the Periodic Table (at the front of the book) for the relative atomic masses of zinc and oxygen (65 and 16), add them up.
(Then put a "g" for grams if it asked for a mole)**

Zinc oxide has a formula ZnO. Which contains = $(1 \times \text{Zn}) + (1 \times \text{O})$
 = $(1 \times 65) + (1 \times 16)$
 = 65 + 16
 = 81

Find the Relative Formula Mass of ...

Q21 hydrogen molecules (H_2)

Q22 oxygen molecules (O_2)

Q23 chlorine molecules (Cl_2)

Q24 iodine molecules (I_2)

Q25 bromine molecules (Br_2)

Q26 nitrogen molecules (N_2)

Q27 fluorine molecules (F_2)

Q28 astatine (At_2)

Relative Formula Mass

Calculate the relative formula mass of the following compounds.

Q1 copper oxide (CuO)	Q6 sodium chloride (NaCl)
Q2 magnesium oxide (MgO)	Q7 potassium bromide (KBr)
Q3 potassium iodide (KI)	Q8 carbon monoxide (CO)
Q4 potassium chloride (KCl)	Q9 sodium bromide (NaBr)
Q5 hydrogen chloride (HCl)	Q10 lithium iodide (LiI)

Calculate the relative formula mass of these more complex compounds.

Q11 copper sulphate (CuSO ₄)	Q21 sulphur dioxide (SO ₂)
Q12 carbon dioxide (CO ₂)	Q22 copper carbonate (CuCO ₃)
Q13 water (H ₂ O)	Q23 zinc chloride (ZnCl ₂)
Q14 methane (CH ₄)	Q24 ethane (C ₂ H ₆)
Q15 ammonia (NH ₃)	Q25 barium sulphate (BaSO ₄)
Q16 calcium chloride (CaCl ₂)	Q26 nitric acid (HNO ₃)
Q17 ethene (C ₂ H ₄)	Q27 lead iodide (PbI ₂)
Q18 magnesium chloride (MgCl ₂)	Q28 sulphuric acid (H ₂ SO ₄)
Q19 aluminium chloride (AlCl ₃)	Q29 aluminium oxide (Al ₂ O ₃)
Q20 aluminium iodide (AlI ₃)	Q30 potassium nitrate (KNO ₃)

And finally these hideously complex compounds.

Q31 calcium carbonate (CaCO ₃)	Q41 ammonium hydroxide (NH ₄ OH)
Q32 sodium carbonate (Na ₂ CO ₃)	Q42 ammonium nitrate (NH ₄ NO ₃)
Q33 aluminium hydroxide (Al(OH) ₃)	Q43 ammonium sulphate ((NH ₄) ₂ SO ₄)
Q34 glucose (C ₆ H ₁₂ O ₆)	Q44 ammonium phosphate ((NH ₄) ₃ PO ₄)
Q35 potassium manganate (VII) (KMnO ₄)	Q45 calcium hydroxide (Ca(OH) ₂)
Q36 sodium sulphate (Na ₂ SO ₄)	Q46 aluminium sulphate (Al ₂ (SO ₄) ₃)
Q37 tetrachloromethane (CCl ₄)	Q47 copper nitrate (Cu(NO ₃) ₂)
Q38 citric acid (C ₆ H ₈ O ₇)	Q48 lead nitrate (Pb(NO ₃) ₂)
Q39 ethanoic acid (C ₂ H ₄ O ₂)	Q49 calcium nitrate (Ca(NO ₃) ₂)
Q40 sodium hydrogen sulphate (NaHSO ₄)	Q50 potassium dichromate (K ₂ Cr ₂ O ₇)

Top Tips: The trickiest thing is all the different terms — molar mass, relative formula mass, mass of one mole. But you work them out the same way — just remember that if something's relative it's being compared to something else, so it's just a number (a ratio) — it doesn't need grams after it.